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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/517,126

03/08/2006

Gerd Schmaucks

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EXAMINER

LACLAIR, DARCY D

ART UNIT

PAPER NUMBER

1796

NOTIFICATION DATE

DELIVERY MODE

09/23/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

info@lmiplaw.com

Office Action Summary	Application No. 10/517,126	Applicant(s) SCHMAUCKS, GERD	
	Examiner Darcy D. LaClair	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. All outstanding rejections, except for those maintained below are withdrawn in light of the amendment filed on **6/10/2009**.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The following action is properly made **FINAL**.

Double Patenting

2. **Claims 1 - 8** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-8** of copending **Application No. 11/718,590**.

The rejection is adequately set forth in **paragraphs 9-11** of the office action mailed **4/9/2008**, and **paragraph 5** of the office action mailed **10/15/2008**, and is incorporated here by reference.

3. **Claims 1-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Mitsubishi et al. (JP 09012888 A)** in view of **Underwood et al. (US 4,201,060)**

The rejection is adequately set forth in **paragraph 4** of the office action mailed **3/12/2009**, and is incorporated here by reference.

Response to Arguments

4. Applicant's arguments filed **6/10/2009** have been fully considered. Specifically, applicant argues **(A)** Applicants note that the double patenting rejection is held in abeyance until this case is ready for allowance, **(B)** Claim 8 has been cancelled in response to the 112 rejection as being non-compliant with the written description requirement, **(C)** Applicant discusses the 103 rejection over Mitsuhashi in view of Underwood **(C.1)** Applicant notes disagreement with the statement that the mist silica of Mitsuhashi is fumed silica and fumed silica is microsilica, and submit a Sigma-Aldrich product information sheet for Fumed silica, which describes the process used to make fumed silica; the process and aggregates formed are not consistent with the spherical microsilica required by the invention; furthermore, Sigma's Product information shows that the fumed silica is 10 times smaller, and the surface area is 10 times bigger than the specific microsilica in the present invention; furthermore, Mitsuhashi does not mention microsilica and teaches a silica powder less than 50 microns, which is 330 times bigger; finally, applicant notes that there are enormous varieties of silica powders within the size less than 50 micrometers available commercially, and one of ordinary skill in the art would have no clue to shift attention to a microsilica specifically, **(C.2)** Underwood can not be combined with Mitsuhashi because underwood teaches a solid resin composition of a thermoplastic resin and particulate amorphous silica as a filler, but does not relate to elastomeric resins, such as the cross-linking treated silicon rubber in Mitsuhashi, although it is stated that the thermoplastic can include elastomers; Underwood clearly states (col 2 line 40-46)

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“the so-called thermoplastic rubbers are also included, since they include elastomeric domains and thermoplastic domains in the same polymer, they can be regarded as an internal blend of a thermoplastic resin and an elastomer. Despite their name, the thermoplastic rubbers are to be regarded as plastics rather than rubbers as such, since no vulcanization is used in their manufacture.”

It is well known to those skilled in the art that vulcanization or cross-linking is a thermoset process, which strongly contrasts with thermoplastic processes, a melt-freeze process. Mitsuhashi requires a cross-linking treatment, and thus relates only to cured rubber compounds by an irreversible cross-linking compound; this crosslinking treatment places Mitsuhashi outside the coverage of thermoplastic materials taught by Underwood, since the silicone rubber material will not melt on heating as the thermoplastic material in Underwood will, **(C.3)** None of the examples in Underwood contains high conventional filler content in addition to microsilica for processability; the present invention relates to a highly filled elastomeric composition which contains conventional fillers and microsilica as a processing agent; Underwood does not teach or suggest microsilica can be used as a processing agent; rather Underwood teaches microsilica as a filler replacing conventional filler in PVC; Mitsuhashi does not suggest or imply a step of forming a highly filled elastomeric compound first and then adding microsilica to modify its processability either; it does not teach a method for producing a highly filled elastomeric compound using this specific microsilica, nor does it teach a method of using the specific microsilica as a modifier to improve processability; it is not obvious from Mitsuhashi and Underwood to use the specific microsilica as recited in the invention, therefore the invention is patentable over Mitsuhashi and Underwood.

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5. **With respect to argument (A)**, Applicant is again advised that the provisional obviousness-type double patenting rejection of record over **claims 1-8** of copending **Application No. 11/718,590** is being maintained until properly overcome.

With respect to argument (B), applicant's arguments have been considered and the rejection under 112 first paragraph has been withdrawn *in light of applicant's amendment* cancelling **Claim 8**.

With respect to argument (C.1), applicant's arguments have been considered but are **not persuasive**. The examiner notes the discussion of Sigma Aldrich's product information, and concedes that this microsilica does not appear to use the same production process as that used to prepare microsilica as described in the specification, p. 3 line 5-10, however this is largely a moot point. The silica of Sigma-Aldrich is not necessarily the silica of Mitsuhashi. First, Mitsuhashi teaches silica powder, (see par [0004]) which is mist silica (fumed silica), hydrophobic silica, wet process silica, and quartz powder which is less than 50 micrometers. (See [0006]) This allows for a wide variety of silica powders and production methods, and teaches any silica powder which is less than 50 micrometers, therefore the silica used by Mitsuhashi is in no way restricted to a fumed silica, nor is it restricted to the silica of Sigma-Aldrich which is 10 times smaller than applicant's claimed silica. Additionally, the 50 micrometer size limit is a limit, and not a definition of the size, therefore anything falling in a size range less than the 50 micrometer size can be employed. As applicant has argued both that the silica taught by Mitsuhashi is 10 times **smaller** and 330 times **bigger** than the microsilica of the instant invention, it is not clear exactly how applicant believes the

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silica does not meet the requirements, as it can not be both simultaneously. As applicant correctly notes, there are a large variety of silica powders falling within the range of less than 50 microns.

With respect to argument (C.2), applicant's arguments have been considered but are **not persuasive**. Underwood teaches a plethora of benefits to be obtained by the use of the microsilica, such as the properties of a finished product, such as fire resistance, mechanical properties, and processing characteristics, (see col 1 line 56-64) reduction in brittleness, higher impact strength, good chemical resistance, and the composition retains its flowability and has good processability; the microsilica also confers high thermal conductivity, which improves rheological properties, and improves fire and acid resistance. (See col 2 line 63-col 3 line 11) A large amount of filler can also be used when this microsilica is employed, which is a cost savings. (See col 3 line 12-15) Many of these benefits would be expected to transfer to any type of resin composition in which the filler was employed. Furthermore, given the processing benefits which are discussed by Underwood, it would be obvious to one of ordinary skill in the art that these processing benefits, which are conferred to a softened thermoplastic polymer, would be observed during the processing of an unvulcanized thermosetting polymer, which has a similar consistency. Furthermore, although Underwood does not teach a vulcanized process, it is clear from the statement quoted above that the silica is useful in a composition having elastomeric domains, and therefore it would further support the case, to one of ordinary skill in the art, for considering the particular silica of Underwood for use in the composition of Mitsuhashi.

With respect to argument (C.3), applicant's arguments have been considered but are **not persuasive**. Mitsuhashi teaches a composition having from 67 to 310 weight sections of filler and 10 – 100 weight sections of silica powder, (see par [0004]) and that an effect of the invention is easy workability. (See par [0016]) Underwood teaches that the nature of the filler (particle size, shape, and chemical constitution) is of importance because of its effect on the processing characteristics (see col 1 line 56-64) and teaches that a large amount of filler can also be used when this microsilica is employed, which is a cost savings. (See col 3 line 12-15) Although Underwood does not exemplify a composition having a high filler content in addition to the microsilica, this does not negate a finding of obviousness under 35 USC 103 since a preferred embodiment such as an example is not controlling. Rather, all disclosures "including unpreferred embodiments" must be considered. *In re Lamberti* 192 USPQ 278, 280 (CCPA 1976) citing *In re Mills* 176 USPQ 196 (CCPA 1972). Therefore, it would have been obvious to one of ordinary skill in the art to utilize microsilica to improve processability and increase the loading content given that Mitsuhashi teaches that this microsilica would provide good processability and allow for a high loading content. With regard to Mitsuhashi's teachings, the teaching clearly makes it evident that the result of the composition is easy workability (See par [0016]) Underwood also teaches improved processing characteristics, particularly based on the nature of the filler, namely the microsilica. Underwood also teaches that by means of routine experimentation, the processer can determine the appropriate conditions for achieving a good dispersion, and that better processability is experienced with the amorphous silica than with other

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fillers. (See col 5 line 39-48) It is obvious from the combined teachings to use microsilica for the explicit purpose of improving the processability. Underwood specifically teaches experimentation to determine the appropriate conditions for achieving better processability, which would lead one of ordinary skill in the art to experiment with the order of addition. Furthermore, altering the order of addition of ingredients is prima facie obvious. As the combination of the references supports the addition of microsilica for improving processing, and Underwood teaches microsilica having the characteristics required by applicant, the combination of Mitsuhashi and Underwood renders obvious the composition and method of applicant.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darcy D. LaClair whose telephone number is (571)270-5462. The examiner can normally be reached on Monday-Friday 8:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Darcy D. LaClair
Examiner
Art Unit 1796

/DDL/

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796